REMARKS

Favorable reconsideration of this application, in light of the preceding amendments and following remarks, is respectfully requested.

Claims 1-6, 8-15, 17-20, 22-24, 26-28 and 30-32 are pending in this application. By this Amendment claims 1-2, 5, 12-15, 22-23, 26-28 and 30-32 are amended and claims 16, 21, 25 and 29 have been cancelled. Claims 33-37 are new. No new matter is added. Claims 1, 12, 13, 14, and 15 are the independent claims. Example support for the amendments herein may be found at Para. [0031, 0038-0039] and Figs. 2 and 6 of Applicants' application.

Rejections under 35 U.S.C. § 101

Claims 1-6, and 8-11 are rejected under 35 U.S.C. § 101 because the claims are allegedly directed to non-statutory subject matter. In particular, the Examiner asserts that claims 1-6 and 8-11 recite a computer readable medium which does not "impart functionality to a computer or computing device, and is thus considered nonfunctional descriptive material." Applicants respectfully traverse this rejection for the reasons detailed below.

Applicants maintain the arguments set forth in the January 7, 2008 response with regard to the above rejection. Additionally, Applicants would like to clarify the following issues.

The Examiner appears to be under the mistaken impression that a "**computer-readable medium storing an executable data structure** for managing reproduction of a text subtitle data by a **reproducing apparatus**," as recited in claim 1, does not impart functionality to a computer or computing device." This is simply incorrect. In particular, MPEP § 2106.01 states the following:

> In this context, "functional descriptive material" consists of **data structures** and computer programs which impart functionality when employed as a computer component. (The definition of "data structure" is "a physical or logical relationship among data elements, designed to support specific **data manipulation** functions." The New IEEE Standard Dictionary of Electrical and Electronics Terms 308 (5th ed. 1993).) "Nonfunctional descriptive material" includes but is not limited music, literary works and a compilation or mere arrangement of data.
>
> (emphasis added)

Thus, data structures recorded on a computer readable medium may constitute statutory subject matter. MPEP § 2106.01 goes on further to state the following:

> Both types of "descriptive material" are nonstatutory when claimed as descriptive material *per se*, [In re Warmerdam,] 33 F.3d at 1360, 31 USPQ2d at 1759. When functional descriptive material is recorded on some computer-readable medium, it becomes structurally and functionally interrelated to the medium and will be statutory in most cases since use of technology permits the function of the descriptive material to be realized. Compare In re Lowry, 32 F.3d 1579, 1583-84, 32 USPQ2d 1031, 1035 (Fed. Cir. 1994) (discussing patentable weight of data structure limitations in the context of a statutory claim to a data structure stored on a computer readable medium that increases computer efficiency) and Warmerdam, 33 F.3d at 1360-61, 31 USPQ2d at 1759 (claim to computer having a specific data structure stored in memory held statutory product-by-process claim) with Warmerdam, 33 F.3d at 1361, 31 USPQ2d at 1760 (claim to a data structure *per se* held nonstatutory).

In view of the above, a more detailed discussion of In re Warmerdam and In re Lowry is warranted.

Discussion of In re Warmerdam

Claim 1 of In re Warmerdam recited:

> 1. A method for generating a data structure which represents the shape of [sic] physical object in a position and/or motion control machine as a hierarchy of bubbles, comprising the steps of:
>
> first locating the medial axis of the object and
> then creating a hierarchy of bubbles on the medial axis.

Claim 6 of In re Warmerdam recited:

> 6. A data structure generated by the method of any of Claims 1 through 4.

With respect to claim 1, the court found both steps drawn strictly to mathematical equations, and therefore non-statutory abstract ideas. In re Warmerdam, at 1759. The court went on to find that the data structure of claim 6 suffered from the same defect.

Discussion of In re Lowry

Claim 1 of In re Lowry recited:

> 1. A memory for storing data for access by an application program being executed on a data processing system, comprising:
>
> a data structure stored in said memory, said data structure including information resident in a database used by said application program and including:
>
> a plurality of attribute data objects stored in said memory, each of said attribute data objects containing different information from said database;
>
> a single holder attribute data object for each of said attribute data objects, each of said holder attribute data objects being one of said plurality of attribute data objects, a being-held relationship existing between each attribute data object and its holder attribute data object, and each of said attribute data objects having a being-held relationship with only a single other attribute data object, thereby establishing a hierarchy of said plurality of attribute data objects;
>
> a referent attribute data object for at least one of said attribute data objects, said referent attribute data object being nonhierarchically related to a holder attribute data object for the same at least one of said attribute data objects and also being one of said plurality of attribute data objects, attribute data objects for which there exist only holder attribute data objects being called element data objects, and attribute data objects for which there also exist referent attribute data objects being called relation data objects; and
>
> an apex data object stored in said memory and having no being-held relationship with any of said attribute

> data objects, however, at least one of said attribute data objects having a being-held relationship with said apex data object.

In finding that the printed matter cases have no factual relevance to the claims at issue in In re Lowry, the court stated:

> Nor are the data structures analogous to printed matter. Lowry's ADOs do not represent merely underlying data in a database. ADOs contain both information used by application programs and information regarding their physical interrelationships within a memory. Lowry's claims dictate how application programs manage information. Thus, Lowry's claims define functional characteristics of the memory.
>
> In re Lowry, at 1034.

The court further noted the following:

> Indeed, Lowry does not seek to patent the Attributive data model in the abstract. Nor does he seek to patent the content of information resident in a database. Rather, Lowry's data structures impose a physical organization on the data.
>
> In re Lowry, at 1034.

And, on the issue of abstract ideas, the Federal Circuit in In re Lowry noted the following:

> More than mere abstraction, the data structures are specific electrical or magnetic structural elements in a memory. According to Lowry, the data structures provide tangible benefits: data stored in accordance with the claimed data structures are more easily accessed, stored, and erased. Lowry further notes that, unlike prior art data structures, Lowry's data structures simultaneously represent complex data accurately and enable powerful nested operations. In short, Lowry's data structures are physical entities that provide increased efficiency in computer operation.
>
> In re Lowry, at 1035.

The claims at issue (e.g., claim 1) are analogous to the claims in In re Lowry, and as such are clearly statutory subject matter. Unlike the claims of In re

Warmerdam, the claims of the subject application do not recite mathematical equations, or the generation of data structures using mathematical equations. Instead, as in In re Lowry, claim 1 recites a "computer readable medium storing an executable data structure" that manages how text subtitle data is **reproduced by a reproducing apparatus**. As further recited in the body of claim 1, a "data area" includes "local style information...for **managing reproduction by the reproducing apparatus**." Accordingly, because the computer readable medium recited in claim 1 includes an executable data structure having a "data area," which provides for "managing reproduction" of text subtitle data by "the reproducing apparatus," claim 1 is clearly directed towards patentable, statutory subject matter.

Applicants again respectfully submit that the Examiner is mistaken in his assertion that that a "**computer-readable medium storing an executable data structure** for **managing reproduction** of a text subtitle data **by a reproducing apparatus**," as recited in claim 1, does not impart functionality to a computer or computing device. As may be seen from the above, In re Lowry defines a data structure as functional descriptive material if the data structure imposes a physical organization on the data. In particular, In re Lowry clearly states that the data structures themselves provide tangible benefits.

In further support, as stated previously, MPEP § 2106.01 states that "a claimed **computer-readable medium encoded with a data structure** defines structural and functional interrelationships between the data structure and the computer software and hardware components which permit the data structure's functionality to be realized, and is thus **statutory**."

In view of the above, Applicants, therefore, respectfully request that the rejection to the above claims under 35 U.S.C. §101 be withdrawn

Rejections under 35 U.S.C. § 102

Claims 1, 5, 6, 8, 9, 13 and 24 are rejected under 35 U.S.C. § 102(e) as being anticipated by US Patent Publication No. 2003/0188312 (hereinafter, "Bae"). Applicants respectfully traverse this rejection for the reasons detailed below.

Amended claim 1 recites *inter alia*, that "the font information includes a **length indicator** indicating the **number of characters** in the associated portion of the text subtitle data." The Examiner relies on Fig. 6 of Bae to disclose the above limitation. However, as disclosed at Para. [0049, 0050] and shown in Fig. 6 of Bae, the subtitle information provides "subtitle head information 90 consisting of basic information on the subtitle, and subtitle text information 94 consisting of actual subtitles." In particular, the "subtitle head information 90 includes properties 92 which provide "a **title** of the DVD title, a subtitle **language**, a **font name** for reproducing the subtitle, a **font size**, [and] a **font color**." While the "subtitle text information 94 is stored with **frame numbers** 96 of the picture to be reproduced and **contents** 96 of the subtitle," Thus, Bae fails to disclose that the "font information includes a **length indicator** indicating the **number of characters** in the associated portion of the text subtitle data," as recited in claim 1.

For at least the foregoing reasons, claim 1 is patentable over Bae. Independent claim 13 recites limitations at least somewhat similar to claim 1 and therefore is patentable for at least somewhat similar reasons. Dependent claims 5, 6, 8, 9 and 24 are at least patentable by virtue of their dependency on one of independent claims 1 and 13. Applicants, therefore, respectfully request that the rejection to the above claims under 35 U.S.C. § 102(e) be withdrawn.

Rejections under 35 U.S.C. § 103

Claims 2-4, 12, 14, 15, 17-20, 22, 23, and 26-28 and 30-32

Claims 2-4, 12, 14, 15, 17-20, 22, 23, and 25-32 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Bae in view of US Patent No. 5,848,217 (hereinafter, "Tsukagoshi"). Applicants respectfully traverse this rejection for the reasons detailed below.

Even assuming *arguendo* that Bae and Tsukagoshi are combinable (which Applicants do not admit), Tsukagoshi still fails to remedy the deficiencies of Bae with respect to claim 1. Independent claims 12, 13, 14 and 15 recite limitations at least somewhat similar to claim 1 and therefore are patentable for at least somewhat similar reasons. Dependent claims 2-4, 17-20, 22, 23, 26-28 and 30-32 are at least patentable by virtue of their dependency on one of independent claims 1, 12, 13, 14 and 15. Applicants, therefore, respectfully request that the rejection to the above claims under 35 U.S.C. § 103(a) be withdrawn.

Claims 10 and 11

Claims 10 and 11 are rejected under 35 U.S.C. § 103(a) as being unpatentable over Bae in view of US Patent Publication No. 2002/0087999 (hereinafter, "Kashima"). Applicants respectfully traverse this rejection for the reasons detailed below.

Even assuming *arguendo* that Bae and Kashima are combinable (which Applicants do not admit), Kashima still fails to remedy the deficiencies of Bae with respect to claim 1. Dependent claims 10 and 11 are at least patentable by virtue of their dependency on independent claim 1. Applicants, therefore, respectfully request that the rejection to the above claims under 35 U.S.C. § 103(a) be withdrawn.

New Claims

Applicants respectfully submit that new dependent claims 33-37 are patentable by virtue of their dependency on one of independent claims 1 and 12-15. Further, claims 33-37 include the subject matter of previously presented claim 1, and thus, are also believed to be allowable for at least somewhat similar reasons.

CONCLUSION

In view of the above remarks and amendments, the Applicants respectfully submit that each of the pending objections and rejections has been addressed and overcome, placing the present application in condition for allowance. A notice to that effect is respectfully requested. If the Examiner believes that personal communication will expedite prosecution of this application, the Examiner is invited to contact the undersigned.

Should there be any outstanding matters that need to be resolved in the present application, the Examiner is respectfully requested to contact Gary D. Yacura, at the telephone number of the undersigned below.

If necessary, the Commissioner is hereby authorized in this, concurrent, and future replies, to charge payment or credit any overpayment to Deposit Account No. 08-0750 for any additional fees required under 37 C.F.R. § 1.16 or under 37 C.F.R. § 1.17; particularly, extension of time fees.

Respectfully submitted,

HARNESS, DICKEY, & PIERCE, P.L.C.

By _____

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